15KV FEEDER CONDUITS ROUTING FROM RISER LOCATION TO WESTBOUND TUBE 4-5" C. ENCASED IN 2" CONCRETE

PULL AND OFFSET (PULL BOX 'A') AT TUBE CEILING BEFORE GATE. SEE DETAIL 'B' DWG. E6-03

PATH TUBE

SEE NOTE 13 FOR CONTINUATION SEE DWG. E-4.03

CABLE SUPPORT AND SPLICE BOX AT BOTTOM OF RISER SHAFT FROM 9TH FLOOR MER. FOR CONTINUATION SEE DWG. E-4.04

SEE NOTE 4

SEE NOTE 9

4-2" RIGID STEEL CONDUITS

SEE DWG. E1-02 FOR CONTINUATION OF CONTROL RACEWAY TO 3 WTC AND 2 WTC

4-5" CONDUITS AT GARAGE EXHAUST PLENUM CEILING WITHOUT CONCRETE ENVELOPE. SEE NOTE 12.

15KV CABLE PULL AND TRANSITION CLOSET

4-5" CONDUITS IN 3" CONCRETE FLOOR FILL WITHIN GARAGE EXHAUST PLENUM TUNNEL. SEE NOTE 10.

UP TO 108TH FL MER. SEE NOTE 8

TOWER 1

FOR FUTURE SERVICE TO 7WTC RUN 7-5" CONDUIT WITH 2" CONCRETE ENVELOPE HARD AGAINST STRUCTURE FROM BEAM AT LOWER EDGE OF DOWN PANEL CEILING. SEE NOTE 11

6-5" CONDUITS ENCLOSED IN 3" 2" CONCRETE ENVELOPE HARD AGAINST CEILING STRUCTURE. SEE NOTE 12

15KV CABLE PULL & TRANSITION CLOSET. SEE PART PLAN 'B' DWG. E6-04.

2-5" CONDUIT TO EMERGENCY GENERATOR ROOM. SEE PART PLANS ON DWG. E6-03

PULL BOX B-SIDE HUNG CEILING BETWEEN BEAMS

1-5" CONDUIT ENCASED IN CONCRETE WITHIN HUNG CEILING CAVITY

UP TO 108TH FL MER. SEE NOTE 8

TOWER 2

NOTES:

1. FOR MASTER ONELINE DIAGRAM SEE DRAWING No. E1-01.
2. FOR GENERATOR SYSTEM RISER DIAGRAM SEE DRAWING No. E1-02.
3. FOR 2 WTC 15KV FEEDER RISER LAYOUT AND DETAILS SEE DRAWING No. E5-01.
4. FOR 5 WTC 15KV FEEDER RISER LAYOUT AND DETAILS SEE DRAWING No. E4-03 AND E4-04.
5. THE HORIZONTAL ROUTING OF CABLE AND CONDUIT SHOWN ON THIS DRAWING IS SCHEMATIC. THE EXACT LOCATION AND ROUTING SHALL BE DETERMINED BY THE CONTRACTOR AT THE CONSTRUCTION SITE. COMPENSATION FOR INSTALLATION OF CONDUIT INCLUDING SUPPORTS, PULLING OF CABLE, PULL BOXES, CUTTING, PATCHING, REMOVAL AND REPLACEMENT OF EXISTING CONSTRUCTION IN THE WAY WILL BE PAID FOR AT THE NET COST THEREOF. "NET COST" SHALL BE COMPUTED IN THE SAME MANNER AS IS COMPENSATION FOR EXTRA WORK, INCLUDING ANY PERCENTAGE ADDITION TO COST, AS SET FORTH IN THE CLAUSE OF THE CONTRACT PROVIDING COMPENSATION FOR EXTRA WORK. COMPENSATION FOR SAID NET COST WORK SHALL NOT BE CHARGE AGAINST THE TOTAL AMOUNT OF COMPENSATION AUTHORIZED FOR EXTRA WORK.
6. FOR CONDUIT(S) SUPPORT AND CONCRETE ENVELOPE DETAIL SEE STRUCTURAL DRAWINGS.
7. FOR SIZE AND NUMBER OF 15KV CABLE INSTALLATION IN RACEWAY SEE RISER DIAGRAM DWG. F1-02.
8. FOR 1 WTC 15KV FEEDER RISER LAYOUT AND DETAILS SEE DWG. E7-01.
9. ROUTING OF 480 VOLT CONDUIT AND CONDUITS FOR CONTROL WIRING TO EMERGENCY TRANSFER SWITCHES AND FOR OIL PUMP CONTROLS AND MISCELLANEOUS CONTROL DEVICES ON B-2 LEVEL SHALL FOLLOW HI-VOLTAGE CONDUIT ROUTINGS EXCEPT THEY SHALL BE INSTALLED AT THE CEILING WHEN IN GARAGE EXHAUST PLENUMS. PULLBOXES SHALL GENERALLY BE INSTALLED AT LOCATIONS CLOSEST TO THE HI-VOLTAGE SYSTEM PULLBOXES.
10. AT THE GARAGE EXHAUST PLENUM TUNNEL WHERE CONDUITS RUNS FOR HV FEEDERS ARE SET IN THE CONCRETE FLOOR FILL PAINT THE ENTIRE LENGTH OF THE TUNNEL FLOOR SURFACE WHERE CONDUIT IS LOCATED WITH ALTERNATED DIAGONAL BLACK AND YELLOW COLOR STRIPES, STENCIL ½" THICK 3" HIGH BLACK LETTERS SIGN OVER THE PAINTED SURFACE AT 12 FEET APART TO READ: "CAUTION 15KV HIGH VOLTAGE CABLES IN THE FLOOR FILL – DO NOT DRILL THROUGH".
11. PAINT OVERHEAD CONCRETE ENCASED CONDUIT INSTALLATION IN SAME WAY AS THE FLOOR SURFACE, INCLUDING SIGN TO READ: "CAUTION 15KV HIGH VOLTAGE CABLES – DO NOT DRILL".
12. ALL EXPOSED CONDUIT IN MECHANICAL OR SERVICE AREAS, WHERE NOT ENCLOSED IN CONCRETE, PROVIDE 2" HIGH 5/8" THICK LETTER LABEL ALONG THE LENGTH OF THE CONDUIT AT 10 FEET APART TO READ: "15KV HIGH VOLTAGE CABLES" FOR THE ENTIRE LENGTH OF THE CONDUIT INSTALLATION
13. DROP CONDUIT FROM PLENUM CRAWL SPACE AT EL. ±299' THRU EXISTING ABANDONED EXHAUST DUCT CONNECTION AT PATH TUBE CEILING BELOW. PROVIDE THROUGH FLOOR WATERPROOF GLANDS, FILL REST OF OPENING WITH CONCRETE. PROVIDE PULL BOX SEATING ON SLAB ABOVE OPENING. RUN CONDUITS TO 3 WTC RISER SHAFT AT SERVICE ELEVATOR SIDE INSIDE CRAWL SPACE. SEE DWG. E6-03 AND E4-03 FOR CONTINUATION.

LEGEND

———	OVERHEAD CONDUIT BANK ENCASED IN 2" CONCRETE ENVELOPE
— — —	CONDUIT BANK IN 3" CONCRETE FILL OVER EXISTING SLAB
———	OVERHEAD CONDUIT BANK NO CONCRETE ENVELOPE
----------	OVERHEAD CONDUIT FOR FUTURE SERVICE TO 1 WTC ENCASED IN 2" CONCRETE ENVELOPE

0 10 30
5 20 60

KEY PLAN

THE PORT AUTHORITY OF NY & NJ

ORIGINAL SIGNED & SEALED BY N.Y. P.E. (OR R.A.)

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I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF ONE OF THE CONTRACT DRAWINGS FORMING AND CONSTITUTING A PART OF CONTRACT NO. WTC-945.071 IN THE FORM IN WHICH SAID DRAWINGS EXISTED AT THE TIME THE SAID CONTRACT WAS EXECUTED BY THE PARTIES.

DATE 11/10/98 Southern A. Adams SPEC. WRITER

DATE 4/10/98 F.R. Lowery ENGINEER OF DESIGN

No.	Date	Revision	Approved
1	12/12/97	REROUTE FEEDERS	
0	11/17/97	ISSUED FOR BID	

Engineering Department
Design Divisions

The World Trade Center

Title

STANDBY POWER
5 WORLD TRADE CENTER

ELECTRICAL

B2 FLOOR LEVEL
15KV FEEDER ROUTING 1

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without it's written consent.

F.F.P	M.A.R.	
Designed by	Drawn by	Check by

Date 11/17/97 Scale AS NOTED

Contract Number WTC-945.071 Drawing Number E6-01